REMARKS

No claims have been added, deleted or amended. No new matter has been added. Claims 1-26 are pending, of which claims 1, 8, 15, 19, and 24 are independent.

Requested Information on Earlier Versions of Pro Engineer

Although continuing to maintain their position that additional information regarding the PRO/ENGINEER application from Parametric Technology Corporation is not required for the examination of this application, Applicants have been able to obtain additional information regarding the requested earlier versions and it is submitted herewith. Attached hereto as Attachment A is a disk containing the electronic versions of the user manuals of:

1) Pro/Engineer Release 18.0(1997)
2) Pro/Engineer Release 19.0 (1997)
3) Pro/Engineer Release 20.0 (June 1998)

*dates refer to copyright markings in manuals

Applicants are providing the materials on a disk as the materials total some 568 MB of data which would be thousands of pages if printed out, and the materials may be more easily searched in their electronic format. Applicants believe that submitted data is the information that the Examiner has requested.

Claim Rejections Pursuant to First Paragraph of 35 U.S.C. §112

The Examiner rejected claims 1-14 and 19-23 under 35 U.S.C. §112 first paragraph as containing subject matter that was not described in the specification in such a way as to convey to one reasonably skilled in the relevant art that the inventor had possession of the invention at the time the application was filed. Specifically, the examiner failed to find support for the added limitation "programmatically". The Examiner's summary of Applicants arguments at page 15, paragraph 12-1 of the current Office Action truncates Applicants arguments in the process of summarizing the arguments. Although Applicants did in fact state that "support can be found throughout the original disclosure", Applicants also gave a number of specific examples of the support. The Examiner did not address why he feels that these specific examples do not provide

adequate support for the claimed limitation but rather only addressed the preliminary statement. Accordingly, Applicants assume that the submitted specific examples were not seen by the Examiner. Applicants submit that literal examples of support in the specification include but are not limited to page 2, lines 8-9 *"The data is automatically transferred by calling the external program without a user request"*, page 2, lines 13-14, *"The output data is automatically updated by calling the EAP without a user request"*, page 2, lines 19-20, *"the CAD program calls the EAP when the data in the model to and from the EAP needs updating as a result of changes to the model"[emphasis added]*, page 3, lines 30-32, *"the data inside the model that is computed by the EAP is automatically updated when the model is updated, without the user making explicit commands to update the data computed by the EAP"*.The Examiner's attention is also directed to original claims 8, 10, 15 and 24 as well as the Abstract , lines 8-9, *"the CAD program calls a callback that results from the registration of the the EAP with the CAD program."* If the CAD program is initiating an action automatically without user intervention, the action is happening "programmatically". Changes to the CAD model trigger the programmatic action of updating the model. If the Examiner feels that these specific examples are not sufficient support for the claimed limitation, Applicants request the Examiner share his reasoning so that Applicants have an opportunity to respond.

Provisional Double Patenting Rejection

The Examiner has indicated that claims 1, 8 and 24 are provisionally rejected for obviousness-type double patenting over claims 1, 7, 14, 18-19, 23, 27 and 32 of co-pending United States Application Number 09/ 316, 549. The Examiner stated that all of the claims in both applications, while not identical, are directed towards using an external application program to provide output data to a CAD package. Applicants assert that the separate applications claim patentably distinct inventions. Additionally, as many of the claims cited by the Examiner in the co-pending case have recently been amended subsequent to the issuance of the Office Action in the present case, and given that the claims in both cases are still being prosecuted and may not be in their final form, Applicants decline to file a terminal disclaimer at this time.

Claim Rejections Pursuant to 35 U.S.C. §102(a)

Claims 1-2, 5-8,11-14, 19-20 and 23-26 were rejected by the Examiner under 35 U.S.C. §102(a) as being anticipated by Deitz, "Design Optimization", Mechanical Engineering, October 1998, Vol. 120, Issue 10, page 24 (hereafter "Deitz"). For the reasons set forth below, the rejections are respectfully traversed.

Summary of Claimed Invention

The illustrative embodiment of the present invention describes a computer system running a CAD package which is interfaced with an External Application Program (EAP). The CAD package includes a model of an object. The model of the object includes output data from the EAP which is integrated into the model such that future changes to the model require additional calculations to be performed by the EAP. The model is then modified and a determination is programmatically reached that the modification requires recalculation of the EAP output data. New input data is sent to the EAP without user input in response to the determination that the modification of the model requires recalculation of the EAP output data. This programmatic request to the EAP is the result of the integration of the EAP output data into the model. New output data is then received back from the EAP and reintegrated into the model. In other words, a two way communication process by which the CAD package and model automatically determines the need to send new input data to the EAP, run it, and obtain new output data from the EAP, is disclosed.

Summary of Deitz

Deitz is a product summary of a software product MSC/INCHECK version 2.0 released by MacNeal-Schwendler Corp. (MSC) of Los Angeles, California. Version 2.0 added shape-optimization and steady state heat-transfer simulation capabilities to the previous version of the software which performed stress, vibration and buckling simulations within the MECHANICAL DESKTOP CAD program from Autodesk, Inc. of San Rafael, California. The shape optimization allows users to parametrically optimize solid-model design configurations. The software allows the optimization to automatically update a MECHANICAL DESKTOP model.

Argument

Deitz fails to disclose all of the limitations of the Applicants independent claims. Independent claims 1, 8, 15, 19, and 24 all include the elements of a computer-aided design (CAD) package/program and an external application program (EAP). The meaning of the term "external" in external application program is defined in the specification at page 5, lines 27-29 of Applicant's specification and indicates that the EAP is "external" in the sense that it is outside of the CAD package and does not operate within the same address space allocated to the CAD package. The specification indicates that the EAP may be on the same or different computer as the CAD package. This definition is consistent with the overall emphasis of Applicants specification which is directed towards solving the problem that most CAD systems were largely self-contained and only processed data within the address space of the CAD system (see page 1, line 16-17, "Background of the Invention"), thus not allowing them to interact with external application programs.

The Examiner indicates (see Office Action page 5, paragraph 9-1) that Dietz discloses an external application program at page 24, column 1, paragraph 3, namely version 2.0 of MSC/INCHECK. Applicants respectfully disagree. MSC/INCHECK is not an external application program as the term is used by Applicants. The Examiner's attention is directed towards the second full paragraph on page 24 holding the Deitz article (first full paragraph of Deitz) wherein it indicates that version 2.0 of MSC/INCHECK adds shape optimization and other simulation capabilities to MSC/INCHECK version 1.0 and that version 1.0 performs various simulations from within the MECHANICAL DESKTOP CAD program. The article makes clear that MSC/INCHECK adds additional tools to MECHANICAL DESKTOP, is integrated into the same environment/address space as MECHANICAL DESKTOP and is not an external application program as that term is used by Applicants.

As additional proof of the failure of MSC/INCHECK to satisfy the claimed element of an external application program, Applicants also direct the Examiner's attention to Attachment B (submitted herewith) , a press release dated July 14, 1998 from MSC Software discussing version 2.0 of MSC/InCheck for a competing CAD program from SolidWorks (hereafter "MSC press release"). Specifically, Applicants direct the Examiner's attention to the second paragraph

of page 1 of the MSC press release wherein it states "MSC/InCheck simulation models are created directly within the SolidWorks environment.[emphasis added]" The Examiner's attention is further directed to paragraphs 3 and 5 on page 2 and the last paragraph of page 2 continuing onto page 3 of the MSC press release wherein it indicates that MSC/InCheck is integrated into and operates within the SolidWorks environment. This is the same sort of integration discussed in Deitz regarding the MSC/INCHECK version 2.0 for MECHANICAL DESKTOP. Accordingly, since Deitz fails to disclose all of the limitations of the independent claims, the Applicants respectfully request the rejections directed to claims 1-2, 5-8,11-14, 19-20 and 23-26 be withdrawn and the claims allowed.

Claim Rejections Pursuant to 35 U.S.C. §103(a)

Claims 3-4, 9-10, 15-18 and 21-22 were rejected by the Examiner under 35 U.S.C. §103(a) as being unpatentable for obviousness over Deitz, in view of Cottrell et al, "CHDStd- A Model for Deep Submicron Design Tools", Design Automation Conference 1998, Proceedings of the ASP-DAC 1998, Asia and South Pacific, pages 249-255 (hereafter "Cottrell"). For the reasons set forth below, the rejections are respectfully traversed.

Summary of Cottrell

Cottrell et al discuss an Integrated Data Model (IDM) technology being used in semiconductor chip design. The IDM works with a central repository of chip component data that is used during chip design. The IDM supports a callback feature that allows an application to register methods to be invoked on specific object events.

Argument

The combination of Deitz in view of Cottrell fails to teach or suggest all of the claim elements of underlying independent claims upon which the rejected claims are directly or indirectly dependent. Specifically, the Examiner has suggested that the callback feature of Cottrell could be combined with Deitz to teach or suggest all of the elements of the rejected claims. However, as set forth above, Deitz fails to disclose the external application program

required by Applicants independent claims. In Deitz, MSC/InCheck is integrated into the CAD program and is not external to the CAD program as the term is used by Applicants. Applicants also note in passing that because of the integration of MSC/InCheck into the CAD program there is no need for the callback mechanism utilized by Cottrell and therefore the reference would appear to teach away from the Examiner's suggested combination. Accordingly, since the combination of references fails to teach or suggest all of the elements of the rejected claims, Applicants respectfully request the rejections be withdrawn and the claims allowed.

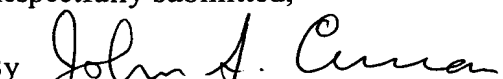
CONCLUSION

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

Applicant believes no fee is due with this statement. However, if a fee is due, please charge our Deposit Account No. 12-0080, under Order No. PAS-094RCE from which the undersigned is authorized to draw.

Dated: July 8, 2004

Respectfully submitted,

By 

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09/318,105

Attachment B

MSC SOFTWARE
SIMULATING REALITY

FOR IMMEDIATE RELEASE

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New Version of MSC/InCheck for SolidWorks Announced

New Release Adds Shape Optimization and Steady-State Heat Transfer

LOS ANGELES, July 14, 1998 - The MacNeal-Schwendler Corporation (MSC) has announced the availability of Version 2.0 of MSC/InCheck for SolidWorks. This latest release of MSC/InCheck for SolidWorks adds shape optimization and steady-state heat transfer simulation to the stress, vibration, and buckling simulation capabilities of MSC/InCheck.

MSC/InCheck simulation models are created directly within the SolidWorks environment. Users can take advantage of the full suite of SolidWorks design tools to apply loads and restraints to sketched areas on the solid's surface.

Shape optimization allows users to parametrically optimize solid model design configurations. For example, a common design objective is to minimize weight without exceeding the material yield strength. With MSC/InCheck, a user can automatically vary specified dimensions and run a simulation to produce an optimum design within the specified design constraint. Once the optimization process is complete, MSC/InCheck automatically updates the geometry of the solid model.

Design optimizations can be performed with stress, vibration, and buckling simulations, or any combination of the three modules. This allows optimization on objectives, such as

minimizing or maximizing mass, volume, frequency, and critical load factor while complying with design constraints for stress, displacement, strain, frequency, and load factor. In addition to automatically updating the dimensions of the solid geometry, the optimization tool produces history, sensitivity, and local trend graphs. This provides powerful insight into how modifications in design dimensions affect design weight, stress, volume, frequency, and other design objectives and constraints.

Using the new convection and conduction heat transfer capabilities, users can apply fixed temperatures, convection, heat generation, heat flux, and heat flow boundary conditions to a solid design, and MSC/InCheck will calculate the temperature distribution on the part. This temperature distribution can then be used as input to simulate the thermal stress characteristics of the design. This heat transfer simulation module will be of particular benefit to SolidWorks customers in the electronics and electrical packaging industry.

MSC/InCheck's results review capabilities are now fully integrated within the SolidWorks window. With MSC/InCheck now using OpenGL, users can take advantage of multiple SolidWorks windows to simultaneously view any number of MSC/InCheck simulation models and displays of results.

Organizing and communicating MSC/InCheck results have been enhanced with this new release. Adding to the comprehensive MSC/InCheck results color contour, deflection, symbol display, and animation plot capabilities, the program automatically generates Web-enabled results reports. HTML and VRML simulation result summaries are easily generated, allowing SolidWorks users to quickly and effectively communicate design performance with the design team, using the Internet or intranet.

"MSC/InCheck is a valuable addition to the SolidWorks Gold Partner Program," says Robert McGill, manager of the SolidWorks Solution Partner Program. "The intuitive user interface and easy-to-use design simulation tools fit naturally within the SolidWorks environment. The new shape optimization module is a great example of how a totally

integrated application like MSC/InCheck is able to combine with the power of SolidWorks to create an even more powerful design tool."

"These new capabilities are compelling reasons to integrate analysis into the everyday mechanical engineering process," says Olimpio DeMarco, director of North American channel sales, marketing, and support for MSC/InCheck. "Using these tools, a design engineer can evaluate a wide range of design alternatives early in the design cycle. This not only allows engineers to have more confidence in their designs, but also improves product quality and reduces prototype costs."

The MacNeal-Schwendler Corporation (NYSE:MNS) is the leading supplier of MCAE software used by engineers throughout the world to analyze the performance of their design without the need for time-consuming and expensive physical prototypes. MSC's family of products has played a role in the design of virtually every major automobile, aircraft, and space vehicle developed in the past decade. MSC products are marketed and supported throughout offices in the North America, Europe, Latin America, and Asia-Pacific. More information can be found at the MSC Web site: www.mscsoftware.com

SolidWorks Corporation, a Dassault Systemes S.A. (Nasdaq:DASTY) company, develops and markets mechanical design software products for Windows. SolidWorks was founded in 1993 with the mission to bring production solid modeling to the desktop of every engineer. SolidWorks has offices worldwide and distributes its products through a network of 160 resellers selling in 43 countries. In just over two years of shipping product, SolidWorks has sold over 15,000 seats of software to over 6,000 customers. For more information and a product demonstration, contact the local SolidWorks distributor or reseller today. Look for new information available on the SolidWorks Web site (http://www.solidworks.com).

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